

SCIENCE & GOVERNMENT REPORT

23rd Year of Publication

The Independent Bulletin of Science Policy

Volume XXIII, No. 20

P. O. Box 6226A, Washington, D. C. 20015

© December 15, 1993

NIH Role in Health Reform Leads to a Bouncy Hearing

With Congress adjourned, Capitol Hill was generally quiet last week, except for another outbreak of politicking by the tireless friends of biomedical research, convened for a Senate hearing on "Health Care Reform and Medical Research."

And so, there was James Watson, Nobelist of double-helix fame, in tip-top form, wondering aloud in a crowded Senate hearing room whether Assistant Secretary of Health Philip Lee is "brain damaged." Watson's speculation was evoked by Lee's failure to share Watson's priorities for research at the National Institutes of Health.

Earlier in the proceedings, a young man, alternating in testimony with his father, told of his frightening affliction with diabetes for 13 of his 20 years, and pleaded for more money for diabetes research at NIH.

A woman diagnosed with Parkinson's disease told of giving up her law practice and founding Parkinson's Action

Science Chiefs End the Year In a Surge of Gloomy Talk

Sampling the rhetoric of the senior statesmen and women of science at year's end, SGR finds the leadership oratorically agitated and generally in low spirits.

The central concern throughout the community is the sluggish growth, even some decline, in the supply of public and industrial money for science, accompanied by political and corporate demands for surer and swifter payoffs from research.

None of this is unprecedented in the long relationship between science and power. But the end of the Cold War has led to a sharper focus on economic efficiency as the underpinning of national security. More so than its predecessors, the Clinton Administration is dedicated to maximizing the economic and social returns from the federal government's expenditures on research and development. The old ways are tumbling. As a result, rare is the gathering of scientists,

(Continued on Page 3)

Super Collider Post-Mortems, and The Washington Woes of Math—P. 6

Network to oppose the Reagan-Bush ban on fetal-tissue research. "Upon completion of that battle," she said, "we discovered our work had only begun, because there was no money to fund the research the ban had stopped."

As a prop for these proceedings, a relic of a bygone era of medicine held a prominent place in the hearing room: an iron lung (unoccupied), borrowed for the occasion from the National Museum of Health and Medicine, and accompanied by a curator and the Director of the Museum. The latter explained that because of medical research, "They're in museums today, instead of hospitals."

Presiding at this political theater, held December 8, was Senator Tom Harkin, Democrat of Iowa, an ardent medical-research champion frustrated by the stringencies of the federal budget. Pointing to the iron lung, Harkin recalled the polio panics that preceded the development of vaccines. As a child, he said, he had visited a ward full of iron lungs. Basic research, he declared, had rendered the iron lung obsolete.

Though strategically well situated as Chairman of the Appropriations Subcommittee for NIH, and as a member of NIH's authorizing Committee, Labor and Human Resources, Harkin has been unable to restore the era of big annual budget gains for NIH, which emerged from Congress this year with a measly 6 percent increase. And that was achieved only

(Continued on Page 2)

In Brief

What is the level of scientific understanding on the all-lawyer Departmental Appeals Board that rejected misconduct findings against Robert Gallo's colleague Mikulas Popovic, leading last month to the government's withdrawal of misconduct findings against Gallo? In its Popovic decision, the Board described the disputed Gallo-Popovic 1984 paper in *Science* as "a seminal work, possibly the most important paper in virology in the 20th century." So regarded by whom? The Board did not say.

From US News & World Report, conducting its "sixth survey of graduate and professional education in the United States," a letter "asking practicing engineers like yourself," "what you, as a respected professional, think about the quality of the engineering schools that grant the MS and PhD degree." Enclosed was a long list of schools from which 25 were to be selected "for the reputation part of the study," to be published in March. The addressee, SGR Editor Greenberg, has never studied or practiced engineering.

Dismayed by articles in the influential *Sunday Times* of London disputing HIV as the cause of AIDS, *Nature* Editor John Maddox denounced the newspaper in an editorial in the December 9 issue of his journal for misleading readers about the risks of infection: To set the record straight, Maddox announced, "Each week, the coverage of AIDS in *The Sunday Times* will be reported [in *Nature*] as if it were news ... to let readers judge whether the newspaper's line on HIV and AIDS shows signs of being modified."

... Administration Non-Committal on NIH Trust Fund

(Continued from Page 1)

because Harkin and allies beat back Clinton's proposal for a flat budget for NIH.

However, the prospects for big gains are dim, since Congress and the Clinton White House are bound by an agreement to hold discretionary domestic spending steady for five years, with only adjustments for inflation allowed. The agreement sets up a zero-sum situation in which any increase for an agency must be matched by a decrease elsewhere in the budget, thus guaranteeing resistance to any proposed increase.

Given this situation, and the virulence of anti-deficit competition between Republicans and Democrats and between the Congress and the White House, Harkin has proposed another route for boosting NIH's finances: Establishment of a trust fund financed by a small tax on each health-insurance policy in the presumably forthcoming system of national health insurance. Harkin estimates that \$5 billion a year could thus be added to NIH's Congressional appropriation, which now stands at \$11 billion. He introduced last week's hearing as part of a series to publicize the financial situation at NIH and drum up support for the trust-fund concept.

The first witness was Assistant Secretary Philip Lee, warmly regarded in the biomedical community as a dedicated campaigner for the many good programs and goals that suffered neglect during the Reagan-Bush era. Lee, however, serves as a trooper in the Clinton Administration, which has stubbornly fixed on preventive research as its big new priority for NIH, with only polite nods to the anxieties of Bethesda's clients in basic research.

The Clinton health plan "emphasizes prevention," Lee told the hearing, which Harkin chaired as a member of the Labor and Human Resources Committee. The hearing room was packed with biomedical lobbyists and other watchers and enthusiasts of NIH, but only one other Senator, Paul Simon, Democrat of Illinois, took part, and he left early.

"Prevention research is the foundation for both clinical preventive services and the public health interventions included in the Health Security Act," Lee continued, noting that the Act includes a Prevention Research Initiative, for which the President would seek a \$400 million authorization.

Lee tossed in the requisite praise for basic research, stating that "Scientific advances require the continued insight and understanding of the fundamental mechanisms of life, health, and disease. Perhaps better than anyone," he stated, "Dr. Harold Varmus, the new Director of NIH, understands how basic research can and does lead to dramatic and many times unexpected discoveries which can affect the health of a few individuals or of millions of people."

However, virtually all of Lee's prepared testimony focused on preventive research. Noting that authorizations come easy, but money is hard to find, Harkin asked Lee where

the \$400 million would come from, thus voicing concerns that it will come out of the static budgets of existing programs at NIH.

Lee diplomatically answered that "the goal is to have an assured source of funding." But at this point, he conceded, it was proposed as an authorization "to have the issue on the table." Asked by Harkin whether the Administration had made up its mind about his trust-fund proposal for NIH, Lee replied, "Not yet."

Harkin said he is concerned that the Administration is confining growth for NIH to "targeted research," to the neglect of basic studies. Lee replied, "I don't personally favor targeting," but did not develop that point.

Harkin warned that if the White House is sincere about raising the NIH budget, it "must tell us where they will cut." And he declared, "I will expose the phony cover if money is not in the budget."

No doubt pleased to be on his way, Lee left the hearing room, and was followed to the witness table by the two patients, who movingly told of their struggles with diabetes and Parkinson's disease.

Also testifying was Mary Woolley, President and CEO of the biomedical lobby Research!America, reporting on one of the fashionable gambits in political representation—a tentatively worded, commissioned public-opinion survey that emphatically supports the cause of the patron. Decked out in the guise of scientific, independent inquiry, these loaded surveys increasingly pollute public dialog. But no matter, they thrive. In this case, as Woolley reported, Research!America hired Louis Harris and Associates to assess public support for biomedical research, and got back results in harmony with the goals of Research!America.

Harris and Associates said it asked a nationwide sample of 1254 respondents whether "this country should spend a lot more, a little more, a little less, or a lot less" on eight fields of research, starting with what emerged as the winner: "Medical research to better diagnose, prevent and treat disease," for which 60 percent chose "a lot more" and 31 percent went for "a little more."

Down in the pits, with a mere 8 percent for "a lot more," was the blandly worded choice of "Defense research to

(Continued on Page 3)

© 1993, Science & Government Report, Inc.

Editor and Publisher

Daniel S. Greenberg

Associate Publisher

Wanda J. Reif

Circulation Manager

Glen D. Grant

Published by Science & Government Report, Inc., twice monthly, except once each in January, July, August, and September. Annual subscriptions: Institutions, \$425.00 (two years, \$730.00). Bulk and individual rates upon request. Editorial offices at 3736 Kanawha St. NW, Washington, DC 20015. Tel. (202) 244-4135. For subscription service: PO Box 6226A, Washington, DC 20015. Tel. 1-800-522-1970; in Washington, DC 785-5054. Reproduction without permission is prohibited. SGR is available on University Microfilms International. Claims for missing back issues will be filled without charge if made within six weeks of publication date. ISSN 0048-9581.

... 25-30 Percent Drop in R&D Spending Forecast

(Continued from Page 1)

or the professional journal, in which the ensuing turmoil in science-and-government relations is not accorded prime time and considerable handwringing.

The premier doomsayer on the scientific circuit these days is a personally cheerful veteran of senior positions in government and industry, Edward E. David Jr., a Bell Labs alumnus who survived service as President Nixon's Science Advisor and later became head of Gould Laboratories and Exxon Research and Engineering. Now a consultant, as well as a busy committeeman at the National Academy of Sciences, David is the Paul Revere of scientific decline, if not calamity.

Last year, he depressed a Washington meeting of science-policy *apparatchiks* with a series of dour prophecies about the future of the American research enterprise [SGR, October 15, 1992 "Science Faces Gloomy Times, a Veteran Insider Warns"]. Last week, before a gathering in Washington of the Council of Scientific Society Presidents, David was back with an "updated," even gloomier rendition of his vision of R&D decline.

"The present scene is disturbing," he said. "The role of so-called basic scientific research, indeed the role of the principle performers of basic research, namely the universities and colleges, are being questioned. The most serious questioners are the funders," he said, adding: "Fundamentally, these issues foretell a struggle to control the US research agenda—[by] scientists or politicians and social engineers." In a concession to hope, David allowed that "Perhaps the confrontation is not as draconian as it sounds, but could become so." He seemed to side on the likelihood of it becoming so.

Predicting that the "total national investment in R&D will shrink by 25 to 30 percent" over the next decade or so, David presented a scenario of a scientific future dominated by impatient political paymasters.

Biomedical Research (Continued from Page 2)

develop new weapons system," and "Electronic research on improved television and electronic equipment," 7 percent. "Space research on space exploration and development" drew 9 percent in favor of "a lot more."

And then came a panel listed on the hearing program as "Nobel Prize recipients, Experts," consisting of three Nobelists: Watson; E. Donall Thomas, University of Washington, and Joseph Murray, Harvard; plus Michael Welsh, University of Iowa, and Herbert Pardes, Columbia.

First on was Jim Watson, warmly expressing admiration for the patients who had testified, and adding:

"In light of that, I must say, as a lifelong Democrat, how disappointed I was in Phil Lee's testimony. I know he's speaking as an official and can't go beyond—I know that sort of thing," Watson remarked.

"But," he continued, "he should have shown a little

Federal research grants, with their traditionally broad latitude for scientists, "will be replaced by contracts with specific deliverables," he said, noting that "The ratio of Federal R&D contracts to research grants has been growing in both numbers and funding amounts. Targeted R&D is becoming dominant," David continued, and "Peer review is losing credibility as political influence increases. Reinforcing this trend is the confrontation concerning integrity and misconduct in research.

"Scientists and engineers have largely lost their credibility as objective advisors and 'friends of the court' in Washington. The same trend toward contracts with deliverables is appearing in corporate-university relations," he noted.

Predicting the end of corporate central research laboratories, David said they "are viewed as anachronisms, isolated from the critical activities of the corporation. They are seen as expensive and unresponsive. Downsizing has been progressing for some time. Corporations are increasingly lean, mean, and stupid.

"Despite the competitive influence," David said, "there is a slowing in demand for new science and technology. There is more emphasis on incremental *ad hoc* improvements than on new technologies based on science.... Our expectations for insatiable demand for science may be much too great. Demands for scientific advances are likely to stem from clearly perceived needs rather than opportunities for new science," he predicted, adding that the recent Congressional termination of the Superconducting Super Collider "is a warning signal."

Describing the laboratories of NASA, the Department of Energy, and the Pentagon as "especially vulnerable," David also predicted a 30-percent reduction in the federal laboratory system. "There is every reason to expect shrinkage," he said, "despite efforts to convert labs to peace-time activities and to couple them to industrial innovation. There will be

(Continued on Page 4)

enthusiasm. He seemed as if he was brain damaged"—which produced an explosion of laughter from the full-house audience and an approving remark from Harkin.

"I like the way you don't mince your words," the Senator told Watson, who was beaming with pleasure at the audience response.

"Well," replied Watson, "in one case, it got me fired," a reference to his forced resignation as head of NIH's genome project following several run-ins with Bernadine Healy when she was Director of NIH.

"That didn't do you any harm," Harkin said.

"No, it allowed me to speak the truth," Watson agreed, adding, "We can't go on with these 4 percent increases [for NIH] if we are going to live up to the opportunities which are available."

Harkin ended the hearing with assurances that he will resume the battle for NIH early next year.—DSG

... New Political Pressures Face Basic Research

(Continued from Page 3)

political resistance to downsizing, but eventually Federal labs will be treated like excess military bases."

David repeated and intensified his earlier forecasts of a surplus of scientists and engineers, noting that "Despite projections of coming shortages, the opposite seems to be in prospect." In addition to the shrinkage of R&D in government and industry, he said, there is a "significant influx" from the former Soviet bloc countries and the Third World.

A similarly pessimistic assessment, though phrased more gently, was delivered by Cornelius Pings, President of the Association of American Universities (AAU), on November 15 at a seminar in Honolulu sponsored by the National Academy of Sciences US-Japan Program. The AAU is the voice of big-league academic research in Washington, and Pings, in his first year as head of the Association, proceeded from the theme of a threatened end to "an era of extraordinary growth and prosperity for basic science and engineering in the nation's major universities."

Citing "the end of the Cold War and the restructuring of the American economy" as powerful forces of change, Pings said, "We are accustomed to considerable direction of basic research programs sponsored by mission-oriented agencies such as the Department of Defense and even the National Institutes of Health," he said. "But many in the US science community have been surprised and challenged by the increasing Congressional pressure to show relevance for all forms of investment in basic research."

Noting mutterings in Congress about foreign financial ties to US university research, Pings said that "it is clear that these concerns signal a new willingness in Congress to link Federal support of university research to increased expectations for directed outcomes."

Academic science, Pings continued, now faces a brisk pace of change, "compared to the previous, systematic evolution of the research university" since World War II. The federal research budget will receive "only modest annual increases," he predicted, and "basic research will have to be justified increasingly by its ultimate relevance to broad societal needs."

Pings concluded by observing that "There is a need for a new rationale for a national science policy," suggesting, "We perhaps have a promising start" in a science-policy strategy issued last summer by the National Academy of Sciences, *Science, Technology, and the Federal Government: National Goals for a New Era* [SGR, July 1: "US Science Can Have It All, Academy Report Asserts"].

Produced by a committee chaired by Phillip A. Griffiths, Director of the Institute for Advanced Study, at Princeton, the report said US science policy should aim for "clear leadership" in all fields essential to the nation's security and prosperity and a strong presence in all others.

The formula was dismissed as irrelevant to the current political problems of science in an address to the Council of

Scientific Society Presidents by Roland Schmitt, a former GE executive and university president who is Chairman of the American Institute of Physics. The Academy proposal, he said, is "essentially a 'supply side' policy, an inward-looking policy" that does not respond to political concerns about value from science.

In the end, however, Schmitt offered little but inspirational rhetoric, declaring, "We need to tell politicians that we share their constituents' concerns—creating jobs for their children and grandchildren, improving health, fighting crime, enhancing education. The best way we can do this is the way Avery and Pasteur and Langmuir did it—by recognizing, as only we can do, what new things we must learn about nature or what pioneering concepts need to be invented to address these concerns."

Representing the Clinton Administration at that same meeting was M.R.C. Greenwood, Associate Director of Science in the White House Office of Science and Technology Policy and formerly Dean of Graduate Studies, UC Davis. Greenwood agreed that the political environment for research is indeed changing, and that fears abound "that we may be on the verge of shredding the tapestry of our nation's magnificent scientific enterprise."

Acknowledging the Administration's emphasis on economically and socially targeted research, she defended the demands for economic relevance in R&D by noting "much of our past science policy was crisis driven"—by the Cold War, energy crunches, etc. Today, she continued, "the threats facing our nation are no less compelling, they are simply different in kind." Referring to AIDS, global change, violence, and other problems of political concern, she said, "In times of war, we have never questioned the need for scientific inquiry to fuel the necessary technology to respond to the threat. Why should we question the contributions of science to respond to these threats now?"

Greenwood then trailed off into encomiums for Clinton's science and technology policies, advised her listeners that fundamental science cannot be compartmentalized from other types of research, and urged them "to make some difficult choices among scientific priorities in order to sustain our scientific creativity into the 21st century."

On the biomedical front, the gloom is typified by an address last month to the annual meeting of the Association of American Medical Colleges by Samuel Thier, former President of the Institute of Medicine, soon to leave the Presidency of Brandeis University to become President and CEO of Massachusetts General Hospital.

"Academic medicine has been a late entrant to the health-care reform considerations," Thier said, in a genteel acknowledgement of the minor-to-nonexistent part accorded basic research in the Administration's deliberations. Thier added that "without intending to do so, health-care reform could injure academic medicine," and he warned that "there

(Continued on Page 5)

France Starts Major Review of R&D Policies

Paris. In France, too, a relatively new Administration is grappling with the issues of how to assure greater economic gain from the government's spending on research.

As the conservative Baladur government nears its 10th month in office, the Ministry of Research and Higher Education has initiated a National Consultation on research priorities, a sort of long-running national town meeting in which interested parties can express their views. The Consultation is the first since 1982, when the newly elected Socialist government adopted the process in developing its research policies.

A multi-stage process, the Consultation began this month with the release of a preliminary report on The Main Objectives of French Research, prepared by an advisory group of scientists, university presidents, and government officials. The authors concluded that French research is of high quality, but said it suffers from rigidity and caution in its institutional framework.

"How can risk-tasking and scientific enterprise be preserved or rediscovered?" the report asked. It also questioned whether the government's big technological programs are economically beneficial, asking, "Is the effort adapted to present economic conditions?"

The report will be reviewed and commented on by major institutions, academic, government, and industrial. In the spring, regional forums will be held, leading up to

a national forum, which will draw up a document that will serve as the basis for a parliamentary debate.

The head of the Ministry, Francois Fillon, says that, with tight budgets and a long-running recession, it is especially important for the nation to define its scientific and technological policies. The Consultation will range over various sensitive issues, including research budgets and priorities, the mobility of scientists and university faculty members, and the place of research institutes in the national scheme of R&D.

In percentage terms, the big gainers in the budget for 1994 are the space agency, up 8.5 percent, and the agency for environment and energy, which received a 20 percent increase. The two thus retain the favored positions they held under the previous government.

The Ministry of Research and Higher Education received a 3.7 percent budget increase, not too bad, considering that the rest of the government was held to a 1.1 percent increase. But with the inflation rate forecast at 2.2 percent, no one is happy with the budget.

In the coming months, the consultative process will consume a great deal of working time of otherwise busy people. Whether this elaborate format will make a difference in the final outcome is a separate and uncertain matter, but at this point, the machinery is rolling and unstoppable.—Catherine Tastemain

(The author is a French journalist based in Paris.)

Gloomy Talk *(Continued from Page 4)*

may be some stagnant support of basic research. The talk is and the hope is to keep the NIH budget equal to inflation. That wasn't the hope we had a few years ago," he recalled. "We wanted to see it growing to take advantage of the opportunity that existed."

Referring to the Administration's plans to increase preventive health research at NIH, Thier said, "I see things in the reform which sound good at first blush but don't make sense to me." More should be done for prevention, he agreed, but he expressed doubt that NIH "is organized or focused for doing that." And he echoed widespread doubts that the prevention program will be financed with additional funds. "I don't believe it will be an add-on. I believe it will become a substitution" for other programs at NIH. Thier's prescription for biomedical politics: "I think we'd be better served by being more outspoken in what we think is really the best way" to employ biomedical-research resources.

Finally, there are the remarks emanating from the spiritual throne of the scientific enterprise, the Presidency of the National Academy of Sciences, occupied by Bruce Alberts, until last July, Professor of Cell Biology at UC San Francisco. Not yet steeped in the issues that grip the resident science-policy community, Alberts is receiving tutorials from Academy staff and other specialists in such arcane matters.

Nonetheless, Washington won't wait. The office requires

President Alberts to speak out on the great issues of science and society, science and politics, science and the economy, etc. By virtue of his title, many platforms beckon, in expectation of breadth, profundity, and guidance on these issues. Alberts complies, but it is evident that he is personally and intensely preoccupied with only one public matter: the woeful condition of science education in America. On this topic, Alberts is an obsessed evangelist for his pet prescription, the direct participation, *pro bono*, of professional scientists in elementary and secondary science education. Speaking on this subject, Alberts is animated and convincing. On the others, however, he appears bored.

In his address to the Council of Scientific Society Presidents, Alberts took cues from a page of notes headed "Talking Points," of which the first was: "With the end of the Cold War, there is an increased need for the scientific community to demonstrate why science is important for our country's future." The next item: "The scientific community must take a more active role in determining the priorities and strategies that drive the scientific enterprise."

And then came the heartfelt Talking Point: "Scientists have a major role to play in revolutionizing science education in the United States so as to create a more effective work force, as well as a better informed public."

Clearly engaged by this subject, Alberts candidly told his audience, "I start to sound like some religious nut."—DSG

Groans and Cheers in Wake of SSC's Collapse

Two post-mortems on the demise of the Superconducting Super Collider (SSC) pretty well sum up all that can be said at this point about Congressional termination of the Texas goliath.

First there's the maudlin analysis of the originator of the SSC design, Nobelist Leon M. Lederman, who brings to mind the old saying about the French bourbons: "They have learned nothing and forgotten nothing."

Writing in the *Scientist* of November 29, Lederman attributes the collapse of the Collider to political myopia, making no reference to the bumbling management of the project, the proponents' hallucinatory cost estimates, or the many brazen misrepresentations about the imminence of foreign help with the burgeoning costs.

Declaring science in deep trouble, Lederman writes: "The federal government and Congress must establish a sane research policy so that never again will the support of three administrations and four Congresses lure thousands of young scientists, engineers, and technicians into a project that can so casually be canceled."

Continuing into the realm of fantasy, Lederman adds: "Most important, scientists must rededicate themselves to a massive effort at raising the science literacy of the public. Only when citizens have reasonable science savvy," he asserts, "will their Congressional servants vote correctly."

The reality, of course, is that the SSC was able to run through nearly \$2 billion because of public and political

ignorance of the scientific realities. Presenting themselves as explorers in a realm incomprehensible to ordinary folks, the SSC's backers exploited Ronald Reagan's weakness for mega-projects and then worked on Congress's appetite for pork.

Furthermore, the cancellation was anything but casual, considering that debate about the SSC raged in Congress for three years, and the project was twice defeated in the House before the final curtain fell.

Cheering the termination of the Collider as a plus for rational science policy is Professor Rustum Roy, Evan Pugh Professor of the Solid State at Penn State University. In a letter in the December 8 *Chronicle of Higher Education*, Roy wrote that "whether we 'find' a Higgs boson, a top quark or W particle will make *absolutely* no difference to 99 percent of physics and 100 percent of all other sciences, and 100 percent of all citizens." Referring to the lifetime cost estimates of the SSC, Roy added: "Thank God for 280 Congresspersons who saved us all \$38 billion for this unusable quaint bit of knowledge."

Accusing the *Chronicle* and the press in general of uncritical acceptance of the scientific wonders promised by the SSC's proponents, Roy fulminated: "Reporters—without any gagging or even mild remonstrance—allowed SSC scientists to go on and on about 'secrets of the Universe,' the 'mind of God,' and other high-sounding empty phrases for years."

Math Goes to Washington

From a contribution by Saunders Mac Lane, University of Chicago, to a discussion in the December 1993 Notices of the American Mathematical Society on "What Directions for the AMS Today?"

The AMS has ... provided a pedantically elaborate so-called "Strategic Plan" ... full of all manner of accounting terminology—a "mission" and a "mass-constituency." The plan was "facilitated" by a team from KPMG Peat-Marwick (what do they know about research?). Research in mathematics hardly came up at all in the strategic plan, and then chiefly in the context of a committee for the "Washington presence."

Washington. It matters because research funding and support for educational reform arises there, but often in confusing ways.... The AMS must track this development; but how to influence it?

In past decades, I have often been in Washington but only in part-time ways. I have observed many mathematicians and scientists who have come to DC to carry out important full-time tasks. In every case they have been co-opted by the establishment—the excitement of lobbying, the prospect of influence, the pressure to "go along" with current fashion. What sets out to be science brought to DC turns out to be DC political pressures brought to bear on science, visibly so in

our *Notices*.

But it is clear that politicians in Washington do not now and will not ever understand what mathematical research is really about—the excitement of finding new ideas or solutions and the thrill of solving a problem which has no necessary connection to any one technology.

The AMS must stand outside politics to counter those extreme insider statements such as the recent one by an official that "mathematicians should no longer do research in algebra"....

"Strategic research" is the latest slogan. Why? The Congress was concerned about industrial competitiveness. The President's Science Advisor, hoping to guide Congress and the bureaucracy ... issued five "Presidential initiatives" on topics such as global change and advanced computing.

The Director of NSF, hearing all this, proposed that NSF become the lead agency for the transfer of technology to industry.... Meanwhile, some NSF funding for the Division of Mathematical Sciences tied into the initiatives, with the result that some individual proposals will be assigned by fiat to some initiative, while the funding for all disciplinary research in math is held flat.

In brief, "strategic research" for our subject has been transformed into a method for putting mathematicians into pigeonholes with applied labels. This may possibly function for "Big Science," but it hardly does so for mathematics.

More IN PRINT: Drug Sales, CRADAs, Science Ed

(Continued from Page 8)

Trends in US Pharmaceutical Sales and R&D (48 pp., no charge), from the Pharmaceutical Manufacturers Association (PMA), the Washington lobby for some 100 research-intensive drug firms, 1990-93 figures on domestic and foreign sales by categories of products and shares of purchases by hospitals, federal agencies, and other sectors, plus data on research expenditures, personnel, etc.

Also from the PMA: **AIDS Medicines in Development: Drugs and Vaccines** (12 pp., no charge), results of a 1993 survey of member firms, with 74 companies reporting 103 products in human clinical trials or awaiting FDA approval.

Order from: Pharmaceutical Manufacturers Association, Publications, 1100 15th St. NW, Washington, DC 20005; tel. 202/835-3450; fax 202/835-3414.

Technology Transfer and the Public Interest: Cooperative Research and Development Agreements [CRADAs] at NIH (18 pp., plus appendices; no charge) by the Inspector General, Department of Health and Human Services, a mildly favorable report on NIH's use of CRADAs in the politically trendy pursuit of linking government-conducted research to industrial goals.

As of 1992, the IG found, NIH had set up 93 of these deals, of which 69 percent were in three institutes: Cancer, Allergy and Infectious Diseases, and Diabetes and Digestive and Kidney Diseases. The IG says both sides consider the CRADA "a useful mechanism for collaboration." But it also questioned the appropriateness of links involving basic research projects, noting that "this kind of research is not intended to transfer commercially useful technology to the private sector." CRADA negotiations are described as "complex and confusing," with the time span from initial contact to final approval for a selected batch actually lengthening, from a median of 259 days in 1990 to 330 in 1992. The IG also reports that marketplace payoff from CRADAs has so far been sparse.

Order from: Office of the Inspector General, Department of Health and Human Services, Public Affairs, Room 5259, 330 Independence Ave. NW, Washington, DC 20201; tel. 202/619-1142; fax 202/619-1487.

A Colloquium on Resources for Research (48 pp., no charge), combined with the annual report of the philanthropic Research Corporation, presents comments, some quite acerbic, from interviews with five prominent scientific figures, all of whom find something to gripe about in current research policies and practices: Roland Schmitt, former President of Rensselaer Polytechnic Institute, says high-tech industry is backing away from research and "cannibalizing the pioneering work they've done in the past." Nobelist Philip Anderson, of Princeton physics, opines that "almost all research is targeted in the wrong direction, almost all the time." Barnett Rosenberg, inventor of the anticancer drugs

cisplatin and carboplatin, says that "if you look at NIH's grant applications, most are not terribly significant." Comments are also offered by Rustum Roy, of Penn State, and Helen Free, President of the American Chemical Society. The Research Corporation, now in its 80th year, awarded \$3 million last year for 150 new and 33 continuing projects at colleges and universities.

Order from: Research Corporation, 101 N. Wilmot Rd. Suite 250, Tucson, Arizona 85711-3332; tel. 602/571-1111; fax 602/571-1119.

The Federal Investment in Science, Mathematics, Engineering, and Technology Education: Where Now? What Next? (41 pp., no charge), a harsh assessment of federal programs related to these educational fields, which cost \$2.2 billion in "core" activities this year, and \$24 billion overall by broader measure.

The report, produced for the White House science office by a panel co-chaired by Karl Pister, Chancellor, UC Santa Cruz, and Mary Budd Rowe, Professor of Science Education, Stanford, says the federal programs are "unbalanced and lack coherence" and few have been evaluated for effectiveness. Among the panel's recommendations: "Funding should be reallocated to provide more support for teacher preparation programs at all levels" and research grantees should be required to "state the role of the grant in providing a well-rounded educational experience for the graduate assistants being supported."

Order from: National Science Foundation, Public Information, Suite 855, attn. Joyce Taylor, 4201 Wilson Blvd., Arlington, Va. 22230; tel. 703/306-1656; fax 703/306-0434.

To Order or Renew

Science & Government Report
Northwest Station, Box 6226A
Washington, D.C. 20015

☐ Renew my subscription ☐ Enter my subscription

Institutional subscribers: one year, \$425.00 ☐
two years, \$730.00 ☐

Non-USA airmail, \$35.00 per year; non-USA surface
mail, \$15.00 per year additional

☐ Check enclosed ☐ Please Bill

Please charge to: ☐ MasterCard ☐ VISA

Account# _____ Exp. date _____

Signature _____

Name _____

Address _____

Zip _____

Toll-Free Subscription Service: 1-800-522-1970
In Wash., D.C.: 785-5054 / FAX: (202) 362-2790

IN PRINT: NIH Grants, Misconduct, CD-ROMS, Etc.

The publications listed are obtainable as indicated—not from SGR.

NIH Extramural Trends: Fiscal Years 1983-1992 (144 pp., no charge; single copies only), a big collection of statistics and commentary concerning the mother lode of biomedical research grants, with copious details on budget growth, categories of distribution, applicants' success and disappointment rates, indirect costs, etc. Johns Hopkins, with \$157 million in 1992, was number one in NIH extramural support for medical schools, heading a top-20 list that collectively received \$1.8 billion, or 48 percent of all NIH awards to such institutions that year. Departments of medicine received the most support, \$1.1 billion, with biochemistry second, at \$285 million, and pediatrics third, \$238 million. Lots more data like that in this well-designed compilation by the NIH Division of Research Grants. For dwellers on the state of the biomedical-research economy, this one's a must.

Order from: National Institutes of Health, Division of Research Grants, Grants Information Office, Room 449, Westwood Building, Bethesda, Md. 20892; tel. 301/594-7248; fax 301/594-7348.

Semiannual Report to the Congress (No. 9), Office of the Inspector General [IG], National Science Foundation (62 pp., no charge), in addition to the usual crop of small-to-middling fiscal offenses flagged by the Foundation's IG, the latest report contains another installment in the IG's discussion of NSF's ground rules for dealing with scientific misconduct—clear and expertly applied, compared with the shambles that exists in the counterpart organization for NIH, the Office of Research Integrity (ORI) in the Department of Health and Human Services (HHS). ORI, to its loss, has voluntarily put its misconduct findings at the mercy of a bench of obscure, scientifically untutored jurists, the Departmental Appeals Board, deep inside HHS. In contrast, the Foundation keeps its misconduct proceedings within the scientific family, with the NSF Director as the ultimate court of appeal. So far the IG is yet to lose one in that process. Meanwhile ORI, baffled by the application of shoplifting law to scientific conduct, has dropped the Gallo case, plus another, and has lost two others, for a 0-4 record before the Appeals Board.

Order from: National Science Foundation, Office of Inspector General, 4201 Wilson Blvd., Arlington, Va. 22230. (As this is written, NSF is moving from downtown Washington to the Arlington address. For the IG's telephone and fax numbers, try: 703/306-2100.)

Information Dissemination: Federal CD-ROM Titles—What Are Available and How They Were Priced (GAO/IMTEC-93-34FS; 36 pp., no charge), from the General Accounting Office (GAO), reports that a great deal of government-produced scientific and technical data, census

SGR Holiday Schedule

The next issue of *Science & Government Report* will be published January 15, 1994.

reports, library catalogs, etc., are now publicly available on CD-ROMs. About half cost \$50 or less, though the prices mysteriously ranged, the GAO found, from nothing to \$1895 for a three-disc set titled "Machine Print Data Base of Gray Scale and Binary Images," produced by the National Institute of Standards and Technology. The report lists 180 CD-ROMS, prices, and the many agencies, with telephone numbers, that produced them. SGR missed this report when it was published in June. Sorry.

Also from the GAO: **Food Nutrition: Better Guidance Needed to Improve Reliability of USDA's Food Composition Data** (GAO/RCED-94-30; 24 pp., no charge), poor marks for the US Department of Agriculture's Human Nutrition Information Service (HNIS), whose Nutrient Data Research Branch collects data on calorie counts and other nutritional values in specific food items. The results go into HNIS's "Handbook No. 8," described by the GAO as "the world's principal source of nutrient information." The GAO, however, expresses doubts about the reliability of the information, noting that the HNIS does not keep a close watch on the contract labs that perform much of its work and that it uncritically accepts nutrition information from parties with their own interests. The report notes, for example, that "data on bacon-cheeseburgers ... came primarily from brochures provided by fast-food chains; the brochures generally did not explain how the nutrient values were determined."

Occupational Safety and Health: Differences Between Program in the United States and Canada (GAO/HRD-94-15FS; 37 pp., no charge), notes, among various differences, that in the US, "employers decide whether and to what extent workers participate in ensuring that the workplace is safe and healthy," whereas Canada mandates "joint employer and worker responsibility." The GAO also found that "Penalties are used more frequently in the United States, while there is a greater enforcement presence and potential for immediate response to hazardous situations in Canada."

Order from: USGAO, PO Box 6015, Gaithersburg, Md. 20884-6015; tel. 202/512-6000; fax 301/258-4066.

Government Research Directory: 1993-94 (1252 pp., \$405), 7th edition of the comprehensive directory of government research centers, laboratories, and associated organizations in the US and Canada. The listings, totaling 3900, include name, address, telecommunication numbers, and director of each facility, size of staff, fields of research, special equipment, publications, etc.

Order from: Gale Research, Inc., Customer Service, 835 Penobscot Building, Detroit, Michigan 48226; tel. 1/800-877-4235; fax 313/961-6083.

(Continued on Page 7)

